

Work Order ID 62310

September 27, 2010 7:54:05 AM



Page 1

Item ID: D206-667-103

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Fwd

Start Date: 9/27/10 Start Qty: 1.00



Cust Item ID:

Required Date: 10/15/10 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: *CL*

Date: 10/9/27 Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D206-667-143	Rev C

100



DOCUMENT CONTROL

DC

Document Control

Memo

0.00

0.00

Photocopy bluefile and create labels as per PPP D206-667-103 CHG004

10/10/10

110



Pick Kit

0.00

Packaging

0.00

Memo

Packaging

Packaging

CL 10-10-26 X1

120



BENDING MACHINE - CROSSTUBES

0.00

Memo

0.00

CNC Bend 2

CNC Alpha 160 Bender

Bend tube as per Dwg D206-667-143 using CNC bender program

CL 10-10-26 X1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start
	QC:	Date:	SPC (Y/N):	Date:	Stop	



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 QC	QC15- Crosstube Dimensional Check Memo	0.00 0.00	<i>8/10/10/26/CP, 10.10.26</i>						

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____

SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

140



Crosstubes

0.00

(P)

Crosstubes

Memo

0.00

Crosstubes

1-Drill holes & ream using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill all (3) top holes.

3-Flip tube and switch drilling Jigs from right to left, left to right. Locate Jigs off existing holes using "T" pins.

4-Drill pilot holes using drill Jig DT8541 & DT8542 as per Dwg D206-667-143. Drill only the top (2) holes.

5-Drill pilot holes as per Dwg D206-667-143. Drill only the top (2) holes.

6-Drill Fwd rivet holes using drill Jig DT8787FWD as per Dwg D206-667-143. Note: Fwd side has 3x top holes.

7-Drill Aft rivet holes using drill Jig DT8787AFT as per Dwg D206-667-141.

8-C'sink holes as per Dwg D206-667-143. Allow rivet to sit below surface to compensate for paint.

9 -Scribe part # and batch # using vibrating stylus as per Dwg D206-667-143 Inside of Cuff(Donot engrave on outside of tube)

10-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D206-667-143

SP 10/10/10

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Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

SAD
10/10/27

Hand Finishing Crosstubes

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

S 10/10/28

Quality Control

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

S 10/10/28

Quality Control

O

-/XO

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Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run

Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

180



Outsource process - NDT per QSI038 4.1

0.00

R/H: 10828

CL 10/10/28



Outsource2

Memo

0.00

Outsource process - NDT

CROSSTUBES

190



Packaging

0.00

R/H: 10828

Packaging

Memo

0.00

Packaging

Ensure copy of NDT results attached to work order.

200



QC

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Quality Control

M 10 10 29 (1)

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Customer:

Reference:

Approvals:	Process Plan:	Date:	Tooling:	Date:	Run	Start
	QC:	Date:	SPC (Y/N):	Date:	Stop	

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
210		0.00							
	SprayPaint								
	Memo	0.00							
	1-Prime inside and outside crosstube as per QSI 005 4.2								
	2-Paint outside crosstube with White Imron as per QSI 005 4.2								
	PRIME:								
	Start Time: <u>7:00</u>								
	Finish Time: <u>8:00</u>								
	PAINT:								
	Start Time: <u>12:00</u>								
	Finish Time: <u>1:00</u>								
220	QC14- Inspect Spray Paint	0.00							
	Memo	0.00							
	Wrap in plastic bag to protect from scratches								

MM 10 10 29 ①ZT 10-11-01 ①

QC

Quality Control

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

230



Crosstubes

Crosstubes

Memo

0.00

M 10 11 01 1

(ASSEMBLE AS PER DWG D206-667-143)

1-Install support using 0.03" to 0.06" thick layer of magnobond 6398 per QSI
015. Let cure for 12h after installation and prior to packaging. Note: (2) Aft
holes should be facing up.
A/R Magnobond 6398: 115580 exp: 07/20112-Install supports and clamps as per Dwg D206-667-143. Torque clamps to 80-
100 in lb3-Install nut plates as per Dwg D206-667-143. Touch-up rivet heads with Imron
paint.→ *M* 10-11-02 1

240



QC5- Inspect part completeness to step on W/O

0.00

S 10/11/02

QC

Quality Control

Memo

0.00

10 _____

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Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

250



Packaging

Pick Kit

0.00

10/11/3

Packaging

Memo

0.00

260



QC

QC4- 100% Inspect kits for completeness

0.00

8/10/10

Quality Control

Memo

0.00

FD

270



Packaging

Packaging

0.00

10/11/3

Packaging

Memo

0.00

SL

Identify and pack for shipping as per PPP D206-667-103
Location: 63
PPP Rev: 10

W/O:		WORK ORDER CHANGES					
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Customer:

Reference:

Approvals: Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start



QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280



QC

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

CK 10/11/02 *AF*

MF

10-11-3

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

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Work Order ID: 62310



4

Parent Item: D206-667-103



Parent Item Name: Crosstube Fwd

Start Date: 9/27/10

Required Date: 10/15/10

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:F 05.09.01 Add holes for compatibility with Bell Skidtubes KJ/JLM
 IPP Rev:G 08-06-03 update as per DSI9415 (ECN1198) DD verified by:
 IPP Rev: H 08.11.17 QC5 was QC6 at step 12 KJ verified by: EC
 IPP Rev:I 08-12-15 add magnobond DD verified by:EC
 IPP Rev J 09.01.06 ECN 08-562 EC verified by: DD
 IPP Rev:K 09-01-19 as per DSI9439 DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D206-667-103TRN		Manufactured		No		110	Each	2.0000	1	1			

Crosstube Turning Detail

		<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>	
			LG	2		
			61426	1		
			61428	1		

B62629

D2873-043	Manufactured	No		230	Each	32.0000	2	2				
-----------	--------------	----	--	-----	------	---------	---	---	--	--	--	--

Nut Plate Assembly

		<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>	
			LG	12		
			57337	12		
			ST	20		
			60981	20		

10-11-02

D2873-045	Manufactured	No		230	Each	28.0000	2	2				
-----------	--------------	----	--	-----	------	---------	---	---	--	--	--	--

Nut Plate Assembly

		<u>Location</u>		<u>Loc Qty</u>	<u>Loc Code</u>	
			LG	28		
			57336	8		
			60982	20		

10-11-02

B#62378

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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September 27, 2010 7:54:04 AM

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Work Order ID: 62310



Parent Item: D206-667-103



Parent Item Name: Crosstube Fwd

Start Date: 9/27/10

Required Date: 10/15/10

Start Qty: 1.00

Required Qty: 1.00

D2891-1

Manufactured No

230

Each

57.0000

2

2

2.25 Support



Location	Loc Qty	Loc Code
LG	57	
<u>46159</u>	7	
50952	18	
53773	20	
55786	12	

D3595-063-395

Manufactured No

230

Each

22.0000

4

4

RUBBER CUSHION

D3595-063-450 BT#61465

Cut to Length

Location	Loc Qty	Loc Code
FP	10	
<u>44667</u>	10	
ST	12	
60585	12	

RUBBER CUSHION .63" x 3.95" (4)

MS20601-AD4W8

Purchased No

230

Each

202.0000

14

14

RIVET



Location	Loc Qty	Loc Code
ST322	202	
<u>108521</u>	98	
112203	104	

W/O:		WORK ORDER CHANGES					
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Start Date: 9/27/10

Required Date: 10/15/10

Start Qty: 1.00

Required Qty: 1.00

MS21920-20

Purchased

No

230

Each

93.0000

4

4

Clamp (per MIL-DTL-8783C)

AN5-30A

Purchased

No

250

Each

86.0000

4

4

BOLT

AN5-32A

Purchased

No

250

Each

332.0000

4

4

Bolt

Location	Loc Qty	Loc Code
LG	93	
112624	2	
114687	1	
114779	14	
<u>115057</u>	26	
115736	50	

Location	Loc Qty	Loc Code
ST339	86	
112933	11	
<u>114437</u>	25	
114941	50	

Location	Loc Qty	Loc Code
ST340	332	
<u>114056</u>	72	
<u>114405</u>	50	
115016	50	
115108	50	
115589	60	
115698	50	

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Start Date: 9/27/10

Required Date: 10/15/10

Start Qty: 1.00

Required Qty: 1.00

AN5-7A



Bolt

Purchased

No

250

Each

160.0000

10

10



41115938 10/11/35



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST337	160	
113149	160	

AN960JD516

NAS1149D0563J Purchased

No

250

Each

34.0000

18

18



41114742 10/11/35



<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST	34	
103694	18	
107534	12	
109287	4	

AN970-4

Purchased

No

250

Each

110.0000

12

12



410/11/35

Washer

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST349	110	
115266	10	
115531	50	
115621	50	

MS21042L5

Purchased

No

250

Each

957.0000

4

4



410/11/35

Nut

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
-----------------	----------------	-----------------

ST139	26	
114813	26	
ST300	931	
115156	431	
115594	500	

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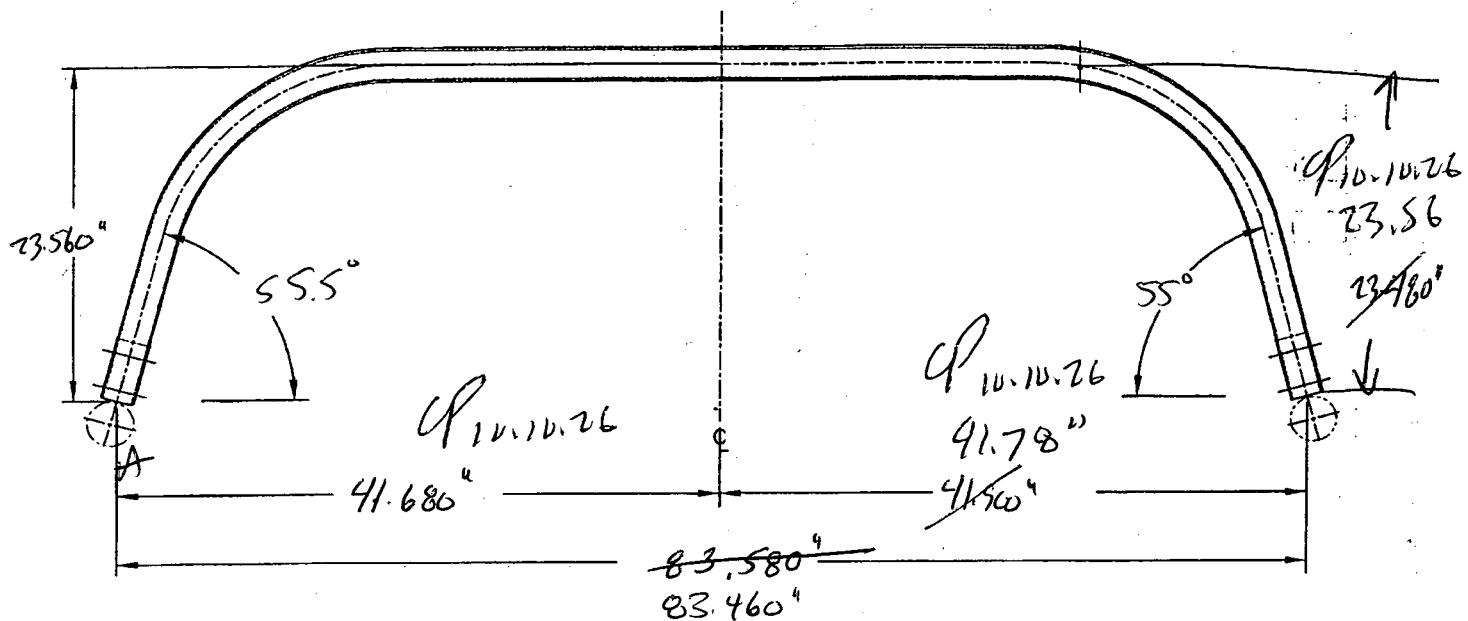
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DART AEROSPACE LTD	Work Order:	62310
Description: Crosstube High Fwd (206L)	Part Number:	D206-667-103
Inspection Dwg: D206-667-143 Rev: C		Page 1 of 1

Required Dimension	Min	Max
Height	23.39	23.65
1/2 Span	41.79	42.05
Angle	54	56
Total Span	83.58	84.10



Comments
Tube is narrow; Acceptable of 10.10.26

QC15 Inspection	CP	S
Date	10.10.26	10.10.26

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	09.06.26	Dimensions updated per Dwg Rev C	KJ	
C	09.10.22	Minimum height dimension revised	KJ	J

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

8 7 6 5 4 3 2 1

Item	Qty	Part Number	Description
1	X	D206-667-143	CROSSTUBE ASSEMBLY (206L HIGH FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

CD1019127

W10:62310

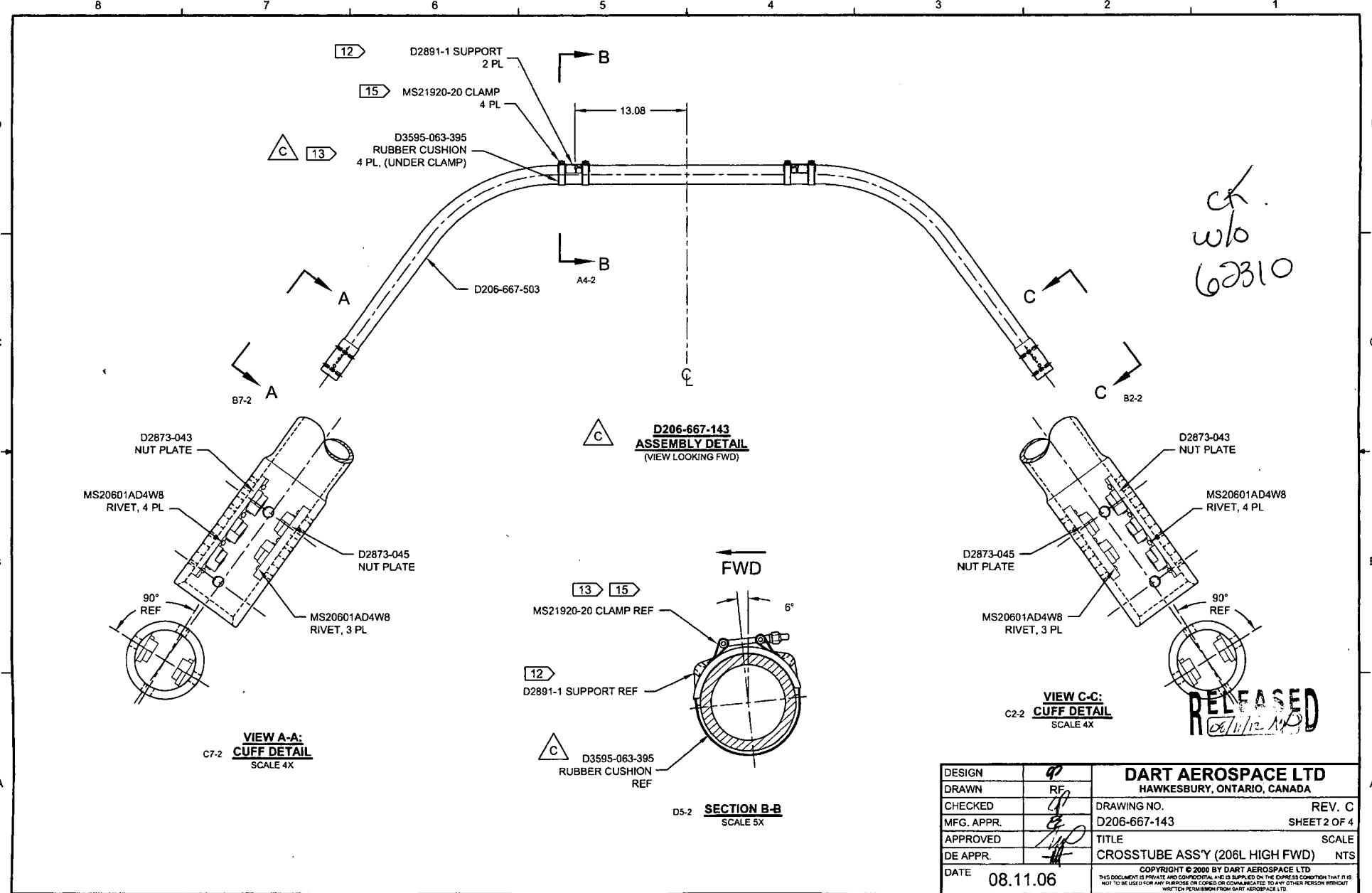
GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6002-115
FINISHED LENGTH = 104.98±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-143" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 15.5 lbs
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY.
TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

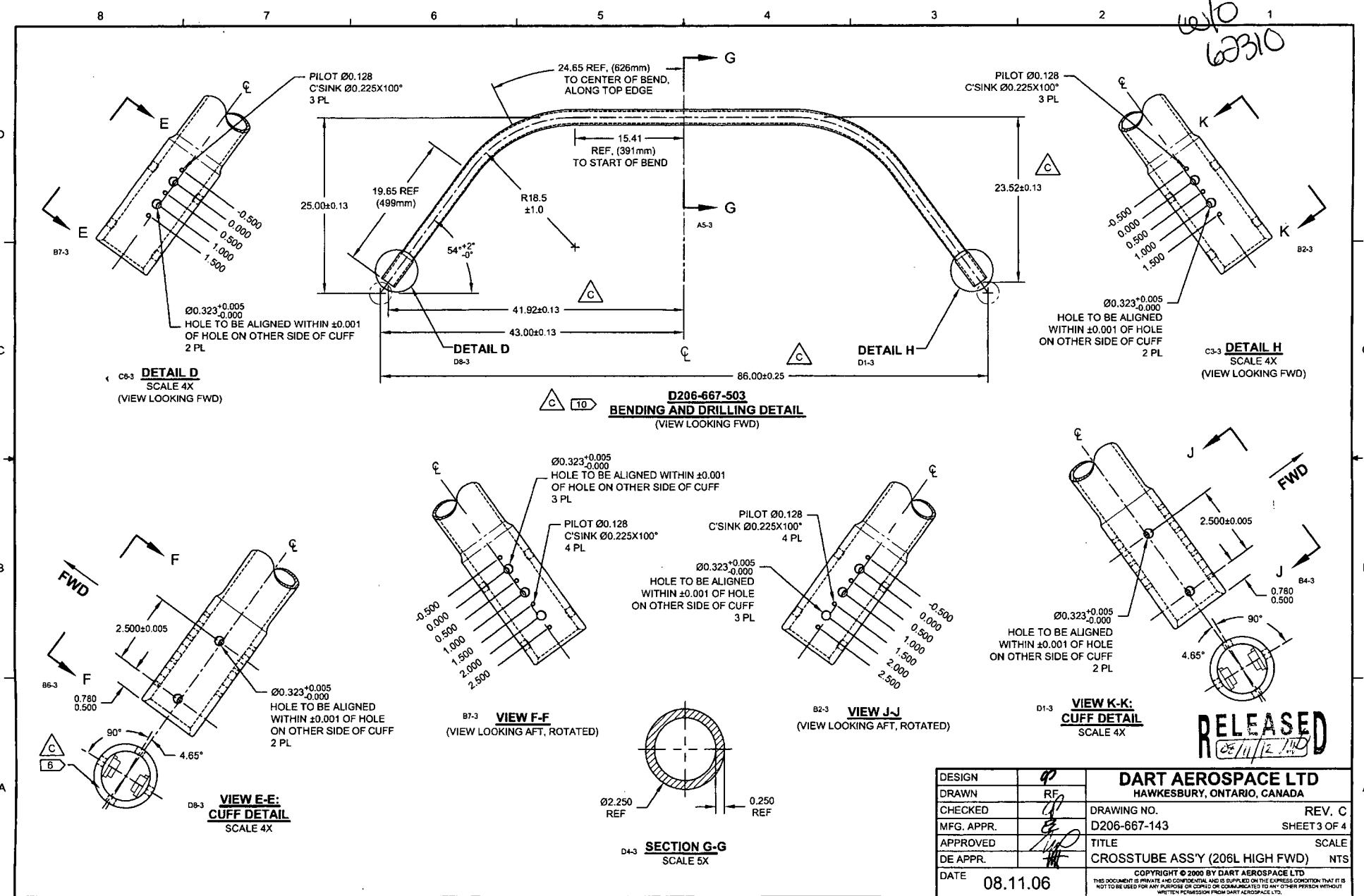
RELEASED
08/11/11 - 10A

C	REVISE GENERAL NOTES/PART LIST (ZN D7-1); REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS. D3595-063-395 WAS D2856-400-694 (ZN D6-2 & A5-2); REMOVED REF. & ADD TOLERANCE (ZN D3-3, C4-3, C5-3); RELOCATED FLAG #6 (ZN A8-3) PER NCR 210; MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	08.11.06
B	ADD HOLES AND NUT PLATES FOR COMPATABILITY WITH BHT/AA SKUDTUBES	PH	05.07.26
A	NEW ISSUE	CP	00.11.17
REV.	DESCRIPTION		BY DATE
DESIGN	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
DRAWN	RF		
CHECKED	D		
MFG. APPR.	E		
APPROVED	F		
DE APPR.	H		
DATE	08.11.06		
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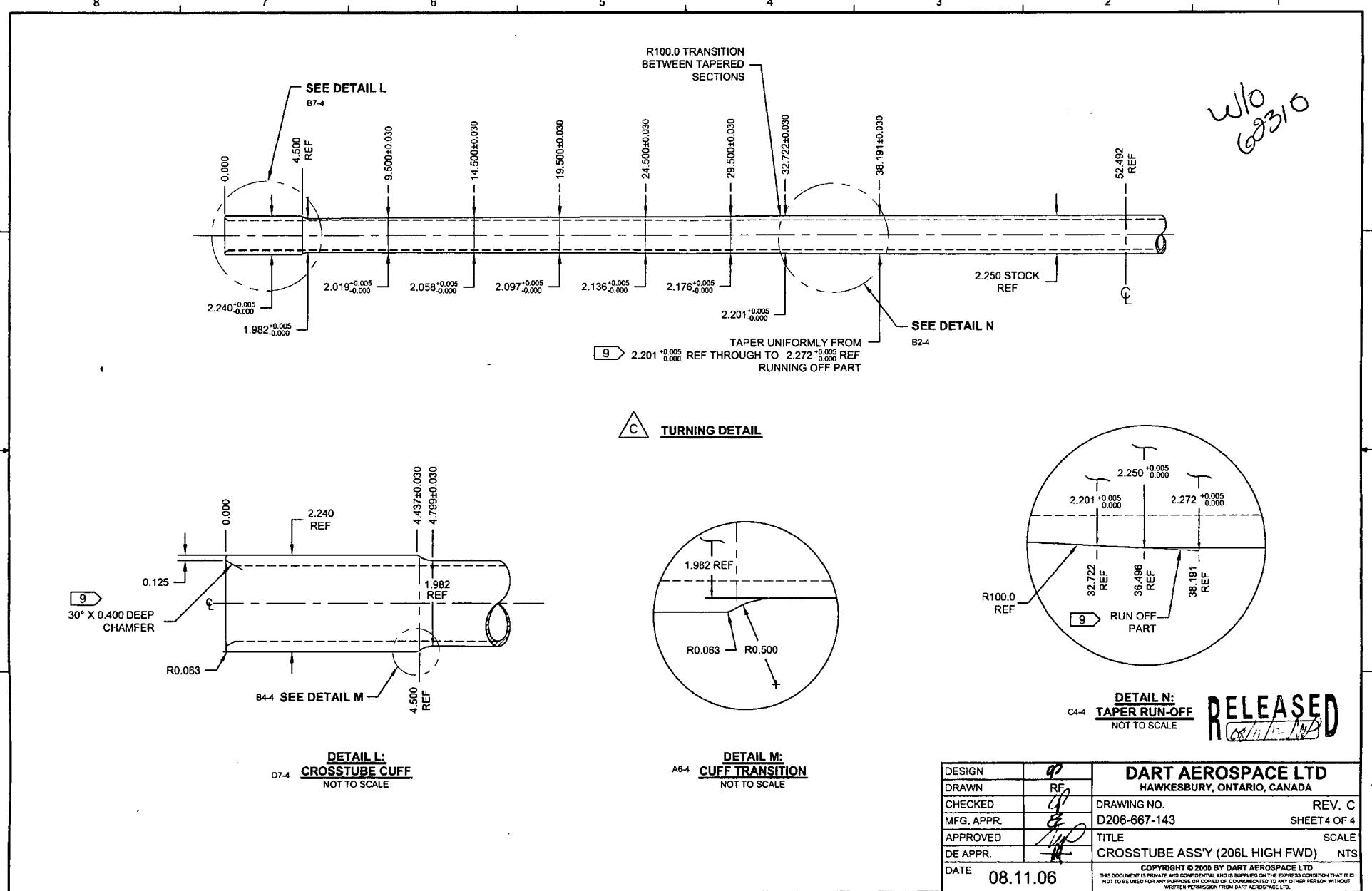
8 7 6 5 4 3 2 1



DESIGN	<i>9</i>	DART AEROSPACE LTD		
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA		
CHECKED	<i>CP</i>	DRAWING NO.	REV. C	
MFG. APPR.	<i>CP</i>	D206-667-143	SHEET 2 OF 4	
APPROVED	<i>SP</i>	TITLE	SCALE	
DE APPR.	<i>SP</i>	CROSSTUBE ASS'Y (206L HIGH FWD) NTS		
DATE	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY OTHER PURPOSE OR SHOWN TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD			
08.11.06				



DESIGN	<i>DP</i>	DART AEROSPACE LTD		
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA		
CHECKED	<i>CP</i>	DRAWING NO.	REV. C	
MFG. APPR.	<i>E</i>	D206-667-143	SHEET 3 OF 4	
APPROVED	<i>SP</i>	TITLE	SCALE	
DE APPR.	<i>SP</i>	CROSSTUBE ASS'Y (206L HIGH FWD) NTS		
DATE	COPYRIGHT © 2000 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY OTHER PURPOSE OR BY ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			
08.11.06				



5.0 PARTS LIST

Item	Qty -011	Qty -013	Qty -015	Qty -101	Qty -201	Qty -103	Qty -203	Qty -105	Qty -205	Part Number	Description
	X									D206-667-011	SPACER BLOCK KIT
		X								D206-667-013	NUT PLATE KIT (-101/-103/-105/-203/-205)
			X							D206-667-015	NUT PLATE KIT (-201)
				X						D206-667-101	CROSSTUBE INSTALLATION, 206A/B HIGH FWD
					X					D206-667-201	CROSSTUBE INSTALLATION, 206A/B HIGH AFT
						X				D206-667-103	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 HIGH FWD
							X			D206-667-203	CROSSTUBE INSTALLATION, 206L/L-1/L-3/L-4 HIGH AFT
								X		D407-667-105	CROSSTUBE INSTALLATION, 407 HIGH FWD
									X	D407-667-205	CROSSTUBE INSTALLATION, 407 HIGH AFT
1			1							D206-667-141	CROSSTUBE ASSEMBLY, 206A/B HIGH FWD
2				1						D206-667-241	CROSSTUBE ASSEMBLY, 206A/B HIGH AFT
3					1					D206-667-143	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 HIGH FWD
4						1				D206-667-243	CROSSTUBE ASSEMBLY, 206L/L-1/L-3/L-4 HIGH AFT
5							1			D407-667-145	CROSSTUBE ASSEMBLY, 407 HIGH FWD
6								1		D407-667-245	CROSSTUBE ASSEMBLY, 407 HIGH AFT
10		*2	*2	*2			*2			D2891-1	SUPPORT
11							*2			D2892-1	SUPPORT
12								*1		D2894-1	SUPPORT
13		*2	*2	*2			*2			D2856-400-694	ABRASION STRIP
14							*2			D2856-400-773	ABRASION STRIP
15								*1		D2856-600-851	ABRASION STRIP
16		*4	*4	*4			*4			MS21920-20	CLAMP
17							*4			MS21920-22	CLAMP
18								*2		MS21920-24	CLAMP
19		4	4	4			4			AN5-32A	BOLT
20							4			AN5-34A	BOLT
21		4	4	4	4		4			MS21042L5	NUT (OR MS21042-5)
22		8	8	8	8		8			AN960JD516	WASHER
23										D3190-1	CHAFING SHIELD
30	8									AN4-6A	BOLT
31	8									AN4-7A	BOLT
32	16									AN960JD416	WASHER
33	2									D3193-041	SPACER BLOCK ASSEMBLY
40	2		*2			*2	*2	*2	*2	D2873-043	NUT PLATE
41	2		*2			*2	*2	*2	*2	D2873-045	NUT PLATE
42		2			2					D2872-043	NUT PLATE
43		2			2					D2872-045	NUT PLATE
44	10		10			10				AN5-7A	BOLT
45	10	10		10			10	10	10	AN5-10A	BOLT
46	4	4	4	10	4			4		AN5-30A	BOLT
47	4							4		AN5-32A	BOLT
48	18	18	10	12	10		10	10	10	AN960JD516	WASHER
49	4	4				6				MS21042L5	NUT (OR MS21042-5)

*REFERENCE ONLY. PARTS ARE INCLUDED IN D206-667-141/241/143/243, & D407-667-145/245 ASSEMBLIES ABOVE

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D206-667 REV. C
AND INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D206-667 REV. 2

REF CANADIAN STC: SH01-5

REF FAA STC: SR01304NY

REF EASA STC: EASA.IM.R.S.01179

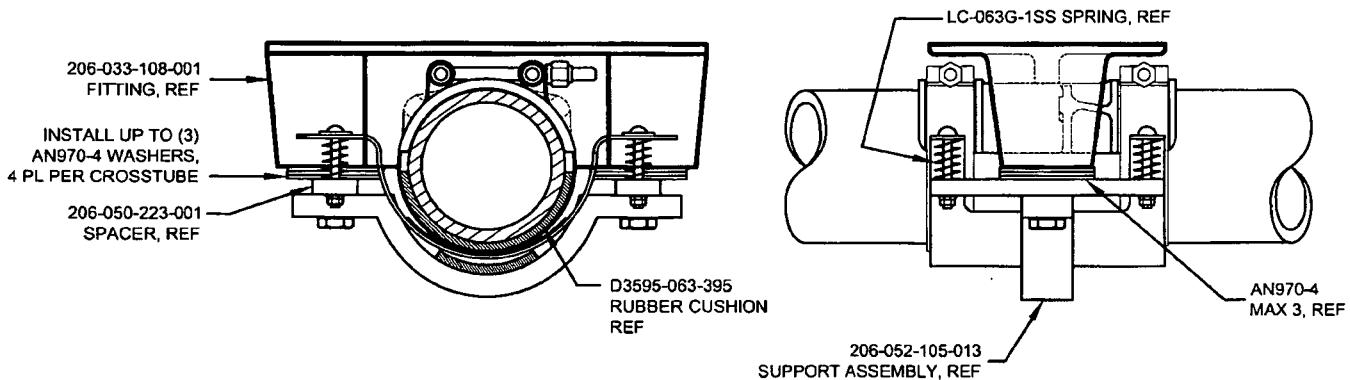
REFERENCE ONLY

PROBLEM:

FOR D206-667-103 CROSSTUBES (206L FWD) AT CHG 003 AND SUBSEQUENT (SEE DSI 9415) PROPER INSTALLATION OF THE OEM SUPPORT ASSEMBLIES MAY BE IMPOSSIBLE DUE TO THE ADDITIONAL THICKNESS OF THE DART D3595-063-395 RUBBER CUSHIONS. THE 206-052-105-013 SUPPORT ASSEMBLY (OR EQUIVALENT) MAY SIT TOO HIGH RELATIVE TO THE 206-033-108-001 FITTING, CAUSING THE LC-063G-1SS SPRING (OR EQUIVALENT) TO BE OVERLY COMPRESSED.

SOLUTION:

IT IS ACCEPTABLE TO LOWER THE SUPPORT ASSEMBLY BY INSTALLING UP TO QTY (3) AN970-4 WASHERS BETWEEN THE 206-033-108-001 FITTING (OR EQUIVALENT) AND THE 206-050-223-001 SPACER (OR EQUIVALENT). SEE FIGURE BELOW FOR REFERENCE.



CROSSTUBE SECTION: SUPPORT DETAIL

PARTS LIST:

THE FOLLOWING PARTS HAVE BEEN INCLUDED WITH D206-667-103 CROSSTUBES AT CHG 004 AND SUBSEQUENT

ITEM	Qty -103	PART NUMBER	DESCRIPTION
60	12	AN970-4	WASHER

CANADA	
DEPARTMENT OF TRANSPORT	
AIRCRAFT CERTIFICATION	
BRANCH	
DAO # 01-O-01	
APPROVED	
BY:	<i>[Signature]</i>
D. SHEPHERD (DE # 02)	
DATE:	08.12.17
CERT. NO.:	SH01-5
ISSUE NO.:	3

A	NEW ISSUE	CP	08.12.17
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>90</i>	DART AEROSPACE LTD	
DRAWN	<i>90</i>	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>PH</i>	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9439	SHEET 1 OF 1
APPROVED	<i>#</i>	TITLE	
DE APPR.	<i>#</i>	206L FWD XTUBE SUPPORT MOD. NTS	
DATE	08.12.17	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
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LIQUID PENETRANT TEST REPORT

P- 15032

PAGE 1 OF 1

CLIENT Dart Aerospace DATE Oct 28 2010 TIME AM PM

ATTENTION Linda Lacelle ACUREN JOB NO. 188-10-0935

ADDRESS 1220 Aberdeen St. PO/WO NO. 178281

Hawkesbury WORK LOCATION Hawkesbury

PROJECT X-Tubes # D206-667-103 3 D206-667-103 BL

ITEM(S) EXAMINED Job #'s: 62310, 62743, 62744, 62600, 62601 ACCEPTANCE STD. ATM 1413/01-038 REV./DATE 2005

JOB DESCRIPTION	PROCEDURE NO. LT-0002 REV./DATE	TECHNIQUE NO. LT-TECH 02 REV./DATE
PART NO. <u>D206-667-103 3 D206-667-103 BL</u>	MATERIAL <u>ALODINED ALUM.</u>	THICKNESS <u>10/12</u>
SCOPE <u>WET FLUORESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE OF THE X-TUBES</u>		

TEST DETAILS				
METHOD <input checked="" type="checkbox"/> FLUORESCENT	<input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH	<input type="checkbox"/> SOLVENT REMOVABLE	<input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND <u>MagiPlex</u>		BLACK LIGHT S/N <u>8178</u>	<input type="checkbox"/> OUTPUT > 1000 μ W/cm ²	<input type="checkbox"/> AMBIENT < 2 fc
PENETRANT <u>ZL6?</u>	MINIMUM DWELL TIME <u>70-45</u> MIN.	LIGHTING EQUIP. <input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT	<input type="checkbox"/> OUTPUT > 100 fc @ SURFACE	
PENETRANT REMOVER <u>H₂O</u>	MINIMUM DRY TIME <u>>10</u> MIN.	OTHER <u>call Oct 15th 2010</u>		
DEVELOPER <u>SKD 52</u>	MINIMUM DWELL TIME <u>10</u> MIN.	LIGHT METER S/N		CAL DUE DATE <u>April 1, 2011</u>
DEVELOPER TYPE <input checked="" type="checkbox"/> NON AQUEOUS	<input type="checkbox"/> AQUEOUS	<input type="checkbox"/> DRY		

TEST SURFACE				
SURFACE CONDITION <input checked="" type="checkbox"/> AS GROUND	<input type="checkbox"/> AS WELDED	<input checked="" type="checkbox"/> MACHINED	<input type="checkbox"/> SHOT BLASTED	<input checked="" type="checkbox"/> CLEAN BARE METAL
SURFACE TEMPERATURE <input type="checkbox"/> < -4°C/ 20°F	<input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F		<input checked="" type="checkbox"/> 10°C/50°F TO 52°C/125°F	<input type="checkbox"/> > 52°C/125°F

RESULTS- <input type="checkbox"/> METRIC <input type="checkbox"/> IMPERIAL	
<u>WET FLUORESCENT LIQUID PENETRANT INSPECTION CARRIED OUT ON 100% EXTERNAL SURFACE ON X-TUBES:</u>	
<u>Subs: 62310: Acceptable</u> <u>62743: Acceptable</u> <u>62744: Acceptable</u> <u>62600: Acceptable</u> <u>62601: Acceptable</u>	 <u>10-10-29</u>

Scope of Services
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES		
CLIENT REPRESENTATIVE <u>Matt Murdoch</u> <u>TECH</u> PRINT	<u>Matt Murdoch</u> SIGNATURE	DTR # <u>E63201</u>
TECHNICIAN (SIGNATURE): <u>Fredrick Chacon</u>		REPORT REVIEWED BY:
NAME (PRINT): <u>FREDRICK CHACON</u>	1 ST TECHNICIAN	NAME <u></u> INITIALS <u></u>
CGSB LEVEL <u>I</u>	SNT LEVEL <u>I</u>	2 ND TECHNICIAN
CGSB REG. NO. <u>12560</u>	CGSB LEVEL <u></u>	SNT LEVEL <u></u>
CGSB REG. NO. <u></u>	CGSB LEVEL <u></u>	CGSB REG. NO. <u></u>